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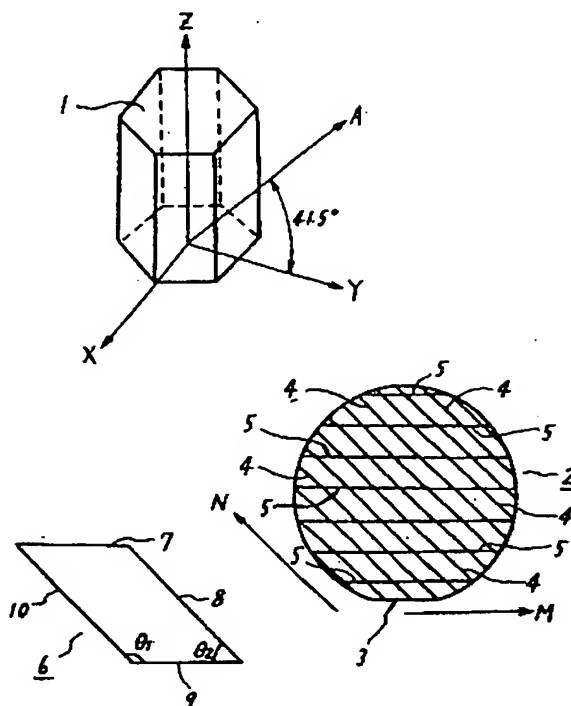
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TITLE : MANUFACTURE OF LITHIUM NIOBATE  
SINGLE CRYSTAL ELEMENT



ABSTRACT : PURPOSE: To prevent cracking and chipping by cutting a single crystal ingot into a rotation-Y cut wafer and dicing the wafer in the direction of the line of intersection between the cleaved surface and surface of the wafer.

CONSTITUTION:  $\text{LiNbO}_3$  is obtained and 41.5° rotation-Y cutting is performed to obtain the wafer 2 which has a straight line A rotated from an Y axis to a Z axis by 41.5° in the Y-Z plane of a hexagonal unit cell as the normal of the wafer surface. The directions of the lines of intersection between cleaved surfaces (1-102) and (01-12) and the wafer surface as the principal surface of the wafer 2 are set to directions M and N having specific angle relation with an orientation flat surface 3. The wafer 3 is fixed on the basis of the orientation flat surface 3 and diced at specific intervals so that dicing lines are in the directions M and N, thus forming cut grooves 4 and 5. Then, the wafer 2 is divided into single-crystal elements 6. Corner angles  $\theta_1$  and  $\theta_2$  are 133.5° and 46.5°.

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